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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,484	04/17/2001	Lisette Cooper	11910-003001	8521
26161	7590	01/22/2008		
FISH & RICHARDSON PC			EXAMINER	
P.O. BOX 1022			CHENCINSKI, SIEGFRIED E	
MINNEAPOLIS, MN 55440-1022			ART UNIT	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/836,484	<b>Applicant(s)</b> COOPER ET AL.	
	<b>Examiner</b> SIEGFRIED E. CHENCINSKI	<b>Art Unit</b> 3691	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14-17, 22, 23 and 28-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-17, 22, 23, and 28-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 3, 2007 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 14-18, 22, 23, 28-32 are rejected** under 35 U.S.C. 103(a) as being disclosed by Gatto (US PreGrant Publication 2003/0065601 A1) in view of Applicant disclosed prior art (hereafter AAPA), Official Notice, Microsoft Excel ® 5 Training Book (hereafter Excel) and Jones et al. (US Patent 6,021,397).

**Re. Claims 14-18, 22, 23, 28 & 29**, Gatto, Jones, Makivic, Official Notice, AAPA, Morningstar.com, E\*Trade collectively disclose a wide variety of computer automated graphic displays of a variety of data output from mathematical algorithms related to financial security market calculations regarding historical and projected data. Excel discloses one example of many general capabilities of off the shelf office software for graphically displaying data outputs of mathematical algorithms in many formats and geometric shapes with many notation capabilities. However, none of Gatto, Jones, Makivic, Official Notice, AAPA, Morningstar.com, E\*Trade or Excel

explicitly disclose the exact method for use in a visualization system comprising the steps of:

**Re. Claim 14,**

- (a) generating data representing at least one stripe indicating a range of odds of a performance measure having indicated values at a succession of times, the range of odds being based on a probability density function of the performance measure, computed from a second derivative of an option price function, for each of the succession of times,
- (b) a contour of a boundary of each stripe varying, for each of the succession of times varying according to variations in the odds of the performance measure being within the range of values indicated by the stripe as determined by the probability density function an, and
- (c) displaying the stripes in the visualization system.

**Re. Claim 28,**

- (a) generating data representing at least one stripe that indicates a range of potential odds of a performance measure having indicated values at a succession of times later than a given date, the range of odds being based on a probability density function of the performance measure, computed from a second derivative of an option price function, for each of the succession of times,
- (b) each stripe beginning at a point which represents the date and becoming broader as it extends to times later than the given date,
- (c) each stripe including two portions, one of the portions representing the odds of the performance measure having indicated values prior to a second date based on one assumption, the other of the portions representing the odds of the performance measure having indicated values after the second date based on another assumption,
- (d) a contour of a boundary of each stripe varying, for each of the succession of times according to variations in the odds of the performance measure being within the range of values indicated by the stripe, as determined by the probability density function, and
- (e) displaying the stripes in the visualization system.

**Re. Claim 15**, the performance comprises a price of a financial the asset.

**Re. Claim 16**, in which the performance measure comprises a return percentage.

**Re. Claim 17**, in which the performance measure comprises a tax-adjusted return percentage.

**Re. Claim 18**, in which generating data includes generating data representing two or more stripes, each representing a different range of potential values of the performance measure, and displaying includes displaying each of the two or more stripes.

**Re. Claim 22**, in which each stripe includes two portions, one of the portions representing the potential values prior to a second date based on one assumption, the other of the portions representing the potential values after the second date based on another assumption.

**Re. Claim 23**, in which the second date is a date on which tax effects change from the one assumption to the other assumption.

Applicant states that claim 14 is exemplary of claim 28 (REMARKS submitted June 15, 2006, p. 8, ll. 32-33).

**Re. Claim 29**,

- (a) generating data representing a trend-following curve as a function of a price of a financial asset at a succession of historical times prior to a first date,
- (b) generating data representing two or more stripes, each stripe indicating a range of odds that the asset has values shown by the stripe at each time of the succession of future times after the first date, the range of odds being based on a probability density function of the price, computed from a second derivative of an option price function, for each of the succession of times,
- (c) each stripe beginning at the end of the trend-following curve at a point on the curve corresponding to the price at the first date and becoming broader as it extends to future times after the first date,
- (d) each stripe including two portions, one of the portions representing the odds of the performance measure having indicated values prior to a second date based on one

assumption, the other of the portions representing the odds of the performance measure having indicated -values after the second date based on another assumption, (e) a contour of a boundary of each stripe varying, for each of the succession of future times, according to variations in the odds of the price having the values indicated by the stripe as determined by the probability density function, and (f) displaying the trend line and the stripes in the visualization system.

**Re. Claim 30**, in which the probability density function is computed from a second derivative of a call price function.

**Re. Claim 31**, in which the probability density function is computed from a second derivative of a put price function.

**Re. Claim 32**, generating data representing a trend-following curve as a function of provided values of the performance measure at a succession of times prior to a given date, the trend-following curve ending at the beginning of the at least one stripe at a point on the curve corresponding to the performance measure at the given date, and displaying the trend-following curve in the visualization system.

The Office Actions dated March 12, 2007, July 3, 2006, March 9, 2006 and September 15, 2005 established on the record the disclosures of Gatto, Jones, Makivic, Official Notice, AAPA (such as that of Morningstar.com and E\*Trade) that the above mentioned computer automated graphic displays of quantitative data displays of various algorithms were in widespread use in the financial securities industry.

Further, the use of graphic displays of data was old, well known and a ubiquitous phenomenon at the time of applicant's invention. The computer revolution automated the art of graphic displays and put it on the computer screen and on computer printouts, first in a single color contrast on a background color (e.g. white on a dark grayish or black background), and then in a multiplicity of colors on a background of the user's choice. Some of the dramatic examples of this computer automation revolution are CAD/CAM, maps, computer animation, and the computer displays of tables, charts and graphs in all kinds of shapes, virtually any known geometric shape and other hand drawn shapes as well. The most well known softwares which came into the market place in the 1980's for the graphic and geometric display of data were Lotus123, Lotus

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Notes, Harvard Graphics, Excel and Adobe, among many others, along with other off the shelf and custom software systems. Several of these software systems have automated the process of creating basic free form mathematically related graphics and general art on a computer screen available in relatively inexpensive off the shelf packages to be run on the ordinary desk top or laptop PC. Applicant is referred to select pages of an independent EXCEL ® 5 training book as an example of what one of the simpler off the shelf software packages, was capable of prior to Applicant's invention directly related to Applicant's invention. The ordinary practitioner of the art would have been familiar with these capabilities at the time of Applicant's invention and also would have known that off the shelf and custom softwares were capable of all of the graphic display features in Applicant's invention. The ordinary practitioner also would have known that widespread use was being made in the financial arts of these very handy computer automated graphic displays of quantitative information of every kind being used by office, accounting, financial and investment clerks, financial managers, financial traders, investors of every level of sophistication and PhD academics in the financial arts alike.

Applicant has previously amended the claims with synonym meanings of the language which the amendment language replaces and displays of additional variations of data. Applicant has currently amended the independent claim limitations with limitations which display other data elements, some of which are based on more complex algorithms. The inventions and the limitations remain the same in their meaning. The invention remains one of displaying data in graphical forms which were well known in the prior art at the time of Applicant's invention. It matters not how simple or complex the algorithms are whose numeric results are being displayed in graphic form. Examples from claims 14, 18, 28 and 29 are:

- "trend-following curve" for a "trend-line";
- "a range of odds" for a "range of potential values" of the performance measure;

- "the range of values indicated by the stripe" for "the range represented by the stripe";
- "... function of the performance measure, computed from a second derivative of an option price ..." and "a contour of a boundary of each stripe ..." (amended claim 14);
- "... the range of odds being based on a probability density function of the price, computed from a second derivative of an option price function, for each of the succession of times" (amended claim 29).

It is understandable that Applicant had little choice in substituting synonym language in order to not add new matter.

However, an ordinary practitioner of the art at the time of Applicant's invention would have found it as obvious to have combined the disclosures of Gatto with the art of Jones, Makivic, Official Notice, AAPA (such as that of Morningstar.com and E\*Trade) and Excel in order to produce a method for use in a visualization system comprising the steps of the above stated limitations of claims 14-18, 22, 23 & 28. The practitioner's motivation would have been based on the desire to provide users with improved tools for effectively viewing historical estimates, analytical projections and recommendations regarding financial assets such as securities (Gatto, [0008]).

### ***Response to Arguments***

3. Applicant's arguments filed October 3, 2007 have been fully considered but they are not persuasive.

**Applicant argues** (pp. 13-14) that the independent claims have not been properly rejected because of various features and detailed language in the invention which are not contained in the references used in the rejections of claims 1-21, and particularly independent claims 14, 28 and 29. Applicant fails to argue the specific limitations of the claims and why and how the examiner's total presentation in each rejection fails to meet the requirements of a *prima facie* case of obviousness. Applicant has not specifically and distinctly pointed out the supposed errors in the rejections of claims 1-21. Applicant



has completely ignored the in depth rationale presented by the examiner in the last Office Action which provides a proper *prima facie* case of obviousness for the rejections. Applicant's amended limitations in the independent claims are of the same nature as the previously presented limitations. The examiner's rationale is repeated above for Applicant's convenience. Applicant is referred to the Office Action mailed on August 23, 2007 for a review of the current standards for a *prima facie* case of obviousness as excerpted from the US Supreme Court's guidelines in the KSR opinion of April 2007 as presented by the Board of Patent Appeals and Interferences in July, 2007. As such, Applicant's arguments fail to comply with the requirements of 37 CFR 1.111(b). The applicant's argument is a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references and the *prima facie* case of obviousness presented above by the examiner.

#### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Siegfried Chencinski whose telephone number is (571)272-6792. The Examiner can normally be reached Monday through Friday, 9am to 6pm. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Alexander Kalinowski, can be reached on (571) 272-6771.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

*Commissioner of Patents and Trademarks, Washington D.C. 20231*

or (571)273-8300 [Official communications; including After Final communications labeled "Box AF"]

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or (571) 273-6792 [Informal/Draft communications, labeled "PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to the address found on the above USPTO web site in Alexandria, VA.

SEC

January 5, 2008

A handwritten signature in black ink, appearing to read 'N. Sub', with a long horizontal stroke extending to the right.

NARAYANSWAMY SUBRAMANIAN  
PRIMARY EXAMINER